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THE PERIOSTEUM.

BY PHILIP CRAMPTON, M. D. F. R. S.
SURGEON GENERAL TO THE ARMY AND FORCES IN IRELAND.

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INFLAMMATION of the periosteum, unconnected with any known constitutional disease, is an affection with which practical surgeons are well acquainted. It is remarkable, however, that a disease so important in its consequences, and of such frequent occurrence, should not have been noticed in any systematic work, nor have been made the subject of any separate inquiry.*

Some detached observations have been made upon the disease, as affecting particular parts, and the appropriate treatment has been distinctly laid down; but there has been no generalization, and the decisive practice which is so eminently successful in the paronychia periostei (the severest form of deep-

* I do not find a single reference to this disease in the comprehensive and valuable works of Ploucquet or Young.

seated whitloe) has not been extended to the painful nodes of the cranium, the tibia, or the sternum, although these affections are similar in their nature, are often equally idiopathic, and are as certainly relievable by a similar treatment.

The frequent occurrence of inflammation of the periosteum in connection with constitutional disease of a specific character, is, perhaps, the cause that its existence as an idiopathic affection has attracted so little attention; but, however this may be, it is certain that the real nature of the affection has very generally been mistaken; it has either been considered as symptomatic of some specific constitutional disease, or as the consequence of a diseased state of the subjacent bone.—The object of the present paper is to direct the attention of the younger part of the profession to this disease, as an idiopathic affection, to notice the different forms in which it appears, and to point out the practice which is applicable to each.

Inflammation of the periosteum, in whatever shape it may appear, is a most severe disease; the intolerable pain, and the constitutional disturbance which is attendant upon it in the acute form, is referable to the peculiarity of structure, and of vital properties which the periosteum enjoys in common with the “*Fibrous System*,”* of which it forms a part.

The peculiarity of structure consists in a total

* Bichat.

want of elasticity, and an incapability of yielding (without rupture) to any extending cause which is suddenly applied. The peculiarity in its vital properties consists in the mode of its sensibility. Periosteum, in common with tendon, ligament and aponeurosis, is (unless in a state of inflammation) insensible to the agency of chemical or mechanical irritants; but in common with these similar structures, if it be exposed to a violent and sudden extension, its sensibility is immediately excited in the highest degree. This is exemplified in the case of ligaments by the violent and debilitating pain, which is experienced from the sudden twisting of a joint, (as of the ankle or spine) and in the periosteum, from the torture which is felt when it is distended by effusion between its inner surface and the subjacent bone. In the latter case the suffering is of course much aggravated by the presence of the inflammatory action, which preceded the effusion.

Inflammation of the periosteum, like inflammation of other parts, may appear either in the acute, or in the chronic form.—These states, however, should be considered but as the extremes of a scale between which the disease will be found to exist in various degrees of intensity. The *paronychia periostei* affords a very pure and familiar example of the disease in its acute form. This affection, however, is to be distinguished from the more usual form of *paronychia*, in which the inflammation is seated in the sheath of the flexor tendons of the fingers.

In the *paronychia periostei*, the pain is excessive,

and the constitutional disturbance is proportionably severe. The finger, which is the seat of the disease, and soon afterwards the hand, become swollen and tense almost to bursting; erysipelatous inflammation, attended with œdema, quickly extends over the hand and arm—the fingers become livid, and if relief be not obtained by a timely operation, the disease terminates in the destruction, by sphacelus, of one or more of the phalanges. But the mischief does not always end here, as the mortification sometimes extends to the integuments of the hand, and even of the fore arm; deep seated abscesses are formed among the muscles, and after weeks, or even months of suffering, the patient may be esteemed fortunate who escapes from a neglected inflammation of the periosteum of a single phalanx, with a stiffened and mutilated hand.

In the paronychia of the sheath (*paronychia tendinei*) the suppuration, after having proceeded to a greater or lesser extent along the sheath, finds its way to the surface through a small opening, which soon throws up a painful fungus, perforated in the centre, through which a probe may be readily passed down to the tendon, but no farther. In the *paronychia periostei*, on the contrary, the disease, when committed to nature, I believe uniformly produces sphacelus of the soft parts; and the probe being introduced through the slough, passes down at once to the naked bone. I have been led into this short digression upon the subject of paronychia, from a consideration of its vast importance, since there is,

perhaps, no disease for the relief of which art can do so much, and nature so little.

The terminations of inflammation of the periosteum, (to use the technical phrase) are various ; they seem to be chiefly modified by the type of the inflammation, the acute form most frequently terminating in suppuration, and the chronic in cartilaginous thickening of the membrane, absorption of the subjacent bone, or in the deposition of an undue quantity of bony matter upon its surface.*

Inflammation of the periosteum, like other diseases commonly called local, is, I believe, in general connected with some constitutional derangement. It accordingly appears most frequently in scrophulous habits, and in those whose constitutions have been broken down by repeated courses of mercury, or by a long residence in hot climates. I have, notwithstanding, met with the disease in persons who, in every other particular, seemed to enjoy the most perfect health. I believe external injury to be a more frequent exciting cause of this affection than is generally suspected. The following

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* The absorption of the surface of a bone should not be confounded with caries, as no two affections can be more distinct, either in a pathological, or a practical point of view. In caries the bone is deprived of life, and accordingly the periosteum is invariably found detached from its surface ; in the case of absorption, on the contrary, the bone is preternaturally vascular, and the thickened periosteum adheres to it with the greatest tenacity ; in fact, it is often difficult, in such cases, to distinguish the limits between the softened bone and the condensed periosteum.

cases are illustrative of the disease in its acute form, terminating in suppuration.

CASE I.

In the year 1812, J. Sergisson, a working jeweller in Dame-street, about 26 years of age, of a pale complexion, but of rather an athletic form, applied to me for what he termed a disease in the knee. I found him crying out with pain; his face was pale and bedewed with a cold sweat. Upon the upper and flat surface of the tibia there was a diffused tumor of a pale red colour, extending about two inches below the articulation of the knee joint; it was smooth, hard, and exquisitely painful to the touch. The man said, "He had not slept for twelve nights; that he was exhausted by suffering; and that nothing remained upon his stomach." His pulse was at 120, small and weak, his tongue was white, but not coated. He told me he had suffered from a similar attack about two years before; that he had been bled with leeches, and blistered, but without relief. A surgeon then applied a caustic plaster, which he said in a short time made a large opening in the skin, and that he soon afterwards obtained relief by the discharge of some matter. The wound remained open for several months, but at length a small scale of bone coming away, it healed in a few days. I immediately made an incision about three inches long down to the bone; the operation seemed to give an unusual degree of pain; the wound bled freely, but I could

not discover any traces of purulent matter. On the following morning, he told me that he had passed an excellent night, and was quite free from pain. The wound was dressed superficially, and healed in a short time : in about three weeks he was able to return to his business. In the year 1815 he experienced a similar attack in the same limb, but somewhat lower down upon the tibia. The disease was treated in the same way and with the same success.

In the following case, the fatal event is no doubt to be attributed to inflammation of the dura mater ; but the disease may, nevertheless, with perfect propriety, be considered as an instance of acute periostitis, since the dura mater is to the internal table of the skull what the pericranium is to the external table ; the inflammation too began in the periosteum of one of the bones of the face, and slowly extended from thence to the dura mater. The case was drawn up at my desire by my relative and friend, Dr. Crampton, from notes which were taken at the bedside by Dr. Harty and himself.

CASE II.

Master T. aged 14, remarkably tall for his time of life, full but not muscular, subject to frequent feverish attacks, on the 1st of September, 1816, got a small angry tumor on the right side of the bony arch of the nose. In a day or two it became in-

flamed and erysipelatous, and occupied all the teguments on the right side of the nose.

On the 5th feverish symptoms ran so high, although he had used fomentations and purgatives freely, that 3xii. of blood were taken from the arm. On the 6th lb.i. was taken with apparent relief. The swelling still continuing to extend on the 8th to the right eyelid; the pulse being strong and hard, the bleeding was repeated to lb.i. On the 9th, to Doctors Harty and Archer, in consultation, the disease seemed so far mitigated, that an attention to the state of the bowels alone appeared necessary. In the evening, however, he became comatose, with a slow full pulse, and occasionally delirious; lb.i. of blood was taken, and a blister applied to the neck.

Such was the history of the case, when I was called to see Master T. on the 10th.

At the time of my first visit he had a violent convulsive fit, after which he was nearly comatose, his respiration stertorous; antecedent to this, his breathing was represented as having been uniformly good. Pulse about 120, full and throbbing; the nose, right eyelid, and teguments of that side of the forehead erysipelatous; both eyes closed; the parts were so tender that the slightest touch gave exquisite pain, and roused him from his coma. Some pus had come from the right nostril, and a little had been spit up, mixed with blood.

The temporal artery was opened by Dr. Harty

without loss of time, and ʒ20 of blood were taken from the arm; sixteen leeches were also applied to the temples, and the head kept cool with ice. This latter measure appeared to afford considerable mitigation to the pain; but no eventual advantage followed.

In the evening ʒxx. more of blood were taken from the temporal artery. On the 11th he seemed to suffer much, as he constantly moaned, but was unable, even when roused, to articulate.—A spot over the right eyebrow, to which he with difficulty raised his hand, was the most painful part. On opening the closed palpebræ with my finger, the pupils looked large and immoveable, and a layer of clear coagulable lymph formed a coating over the corneæ of both eyes. Leeches, blisters, &c. were all resorted to, but he died, without any convulsive effort, on the morning of the 12th. With the morbid appearances after death you are well acquainted.

JOHN CRAMPTON.

EXAMINATION OF THE BODY.—13th September, 1816. The following appearances were observed on examining the head of Master T. aged 14, thirty hours after death. Present Doctors Archer, Harty, Crampton, and Mr. P. Crampton.

On raising the scalp the pericranium, covering the os frontis on the right side, appeared thicker than natural, and was in some parts of a dark red colour; it was completely detached from the subja-

cent bone, and its *inner* surface was covered with thick purulent matter of a light green colour. On slitting down the membrane as far as the superciliary ridge, a considerable quantity of purulent matter escaped from all sides, and a probe was easily passed backwards into the orbit between the bone and the periosteum, and downwards behind the temporal muscle, as far as the back of the palate.

On raising the skull cap, the *outer* surface of the dura mater (for an extent corresponding with the limits of the detached pericranium) was found to be separated from the internal table of the skull; it presented a dull and flocculent surface, and was smeared with a greenish puriform mucus. The structure of the *inner* surface of the dura mater was less altered, but it was more generally covered with purulent matter; it was observed to be in considerable quantity on that part of the membrane which invests the anterior part of the right hemisphere, but there was no part of the internal surface of the dura mater which did not exhibit traces of suppuration.

The pia mater was, perhaps, more vascular than usual; but the arachnoid membrane was perfectly transparent, and no effusion had taken place upon its surface, except upon the upper part of the anterior lobe of the right side; and here the pia mater, for the extent of about two inches, was in a state of suppuration. This diseased part exactly corresponded in situation and extent with a large patch

of thickened and inflamed pericranium of a dark red colour. The brain was perhaps more vascular than natural, and there was about an ounce and a half of water in the ventricles.

The right side of the face was somewhat swollen, and the upper eye lid was protruded beyond the eyebrow. An obscure fluctuation could be felt beneath the integuments of the upper part of the nose. On cutting down to the bone, a considerable quantity of purulent matter issued from beneath the periosteum, which was found to be in a state of suppuration, and so extensively detached from the subjacent parts that a probe could, with great ease, be passed between that membrane and the bones, either upwards upon the os frontis, backwards along the roof of the orbit into the cranium, or downwards upon the maxillary bone into the mouth.

It would appear, then, upon connecting the history of this distressing case with the appearances after death, that the disease was (in its commencement) an inflammation of the periosteum, affecting that part of the membrane which invests the bones of the nose. In the progress of the disease, the membrane which covers the bones of the face and head, and ultimately the investing membrane of the brain itself, became engaged in succession. So long as the inflammation was confined to the periosteum, which covers the bones of the face, the symptoms were moderate; but as soon as it extended to the pericranium and the dura mater, the fatal train of symp-

toms which uniformly attend inflammation of the latter membrane, immediately set in, and ran their accustomed course.

In the following case the disease assumed a more chronic form ; the inflammation accordingly did not, as in the preceding instance, terminate in suppuration, but in a thickening of the pericranium, and subsequently of the dura mater. The affection of the brain exhibited a corresponding chronic character, and was such as is observed to depend on the compression of that organ by a tumor, or by a portion of depressed bone.

Mary Loudon,* a ribbon weaver, aged 32, was admitted into the Meath Hospital, on the 14th of December, 1812. She complained of intense pain of the head, chiefly affecting the left side—the right arm was wasted and paralytic, and the fingers were contracted—the lower extremities were so feeble that she could not stand erect without support ; her speech was faltering, and her articulation indistinct ; her form was emaciated ; the countenance pale, and expressive of the greatest distress : she seldom ceased to weep, and said that she could get no sleep from the incessant pain of her head. Her pulse was 60, small, weak, and compressible ; her stomach rejected all food, and her bowels were torpid. A few hours af-

* Although this case came under my immediate observation in the Hospital, I am indebted to Mr. Hewson, for the daily reports which were taken at the bed side.

ter she had been received into Hospital she had a strong convulsive fit. There was a tumor about the size of half a walnut over the middle of the left parietal bone ; it was soft and elastic at the centre, but firm at the circumference. There was a small opening at the apex, through which a probe could be passed down to the bone. She gave the following account of the disease : About six months before, her husband struck her on the head with the heel of his boot ; she was stunned by the blow, but the integuments were not wounded. She soon recovered from the immediate effects of the injury, and continued tolerably well for a month or six weeks ; she then, for the first time, observed a swelling, attended with considerable soreness about the part where the blow had been inflicted. The tumor daily became more painful, and she soon began to suffer from severe head-ach, sickness of the stomach, and want of rest ; her health began rapidly to decline, and about a month previous to her admission (and about five months from the period of the injury) she was seized with an epileptic fit ; on recovering, she discovered that she had lost the use of the right arm, that she expressed herself with difficulty, and that she was no longer able to stand without support. Since that period the fits have frequently recurred, and her health and spirits have rapidly declined.

On Tuesday the 18th of August, it was determined, in consultation, to lay open the tumor through its whole extent down to the bone, and to remove by the trephine a portion of the skull, corresponding

in extent with the diseased part of the pericranium ; the operation was performed by Mr. Hewson ; it was observed, in making the incision, that the pericranium, which formed the bulk of the tumor, exhibited a firm fibrous structure ; that it was unusually vascular, possessed a high degree of sensibility, and adhered with such force to the subjacent bone, that it was with difficulty detached in order to make room for the application of the Trephine ; the bone was rough, in consequence of a considerable portion of the outer table having been removed by absorption, but the firm and vascular adhesion of the pericranium sufficiently evinced that its vitality was unimpaired. When the circular portion of bone was removed, the dura mater bled freely ; the membrane seemed to have undergone a change of structure, in all respects similar to that which was observed in the pericranium. The lips of the wound were laid down and dressed simply.

19th. She had a much better night than she had enjoyed for some weeks ; much less pain of the head ; complains, however, of chilliness. Pulse 60, soft and small. Vomited once this morning.

20th. Had no sleep from uneasiness of the head ; lips of the wound somewhat swollen. Vomited frequently. Pulse 70. No stool. Ordered cathartic pills, with calomel, and an effervescing mixture.

21st. No particular change ; stomach still irrita-

ble ; bowels constipated. The purgative medicines were continued.

22d. At 8 o'clock last night had a severe rigor ; is at present in a state of insensibility, from which she can with difficulty be roused ; breathing laborious, and accompanied with stertor. The countenance in general pale and sunken, but sometimes suddenly suffused with red ; pulse 120, small and indistinct ; extremities cold ; tongue dry, and brown in the middle, bowels still constipated ; stomach rejects every thing. Purgatives continued.

23d. Passed a restless night ; was frequently delirious ; edges of the wound more swollen, and extremely sensible ; bowels have not yet yielded ; Pulse 120.

24th. Had a severe convulsive fit during the night ; continual startings ; much delirium ; an erysipelatous inflammation occupies the parts about the wound, extending behind the right ear down the side of the neck ; bowels still costive ; the purgatives, in one shape or other, still persisted in ; every thing rejected by the stomach.

25th. The erysipelatous inflammation extended over the face and both the eyes ; other symptoms as before.

26th. The bowels at length yielded in the course of the night ; she afterwards obtained some rest, and the countenance this morning is expressive of great

relief; she sits up in her bed, and answers distinctly to the questions which are put to her. The erysipelas has decreased, a considerable quantity of healthy pus has flowed from the wound: the thickened dura mater protrudes above the edge of the bone, and seems disposed to slough; the stomach settled, tongue moist, and cleaning at the edges. Pulse 120.

27th. Slept well last night; erysipelas rapidly declining; the power of the right arm considerably improved; a slough has been detached from the dura mater. From this day forwards every thing proceeded in the most favorable manner. On the first of September she was free from complaint, and the right arm had completely recovered its strength; on the 20th she returned to her occupation.

It is impossible not to be struck by the resemblance which obtains between this case, and some of those related by Sir Everard Howe, in his valuable paper in the 3d vol. of the Medical and Surgical Transactions, whatever opinion may be formed as to the original seat of the inflammation in those cases: it is obvious that in the case of M. Loudon, the disease originated in the pericranium, and was transmitted from that membrane to the dura mater, since the symptoms denoting a diseased state of the latter membrane did not appear until the inflammation of the former had subsisted for several weeks. The same observation is applicable to the case of master T. In a practical point of view, however, it is of little consequence to determine in which of the two mem-

branes the disease begins, since both reason and experience suggest the propriety of dividing the inflamed pericranium, whether with a view of preventing the extension of inflammation to the dura mater, or of relieving that membrane, should it already have been inflamed.

The following Case is illustrative of the disease in what might be termed the subacute form :

Mr. B——, aged twenty-three, of a fair complexion, and of rather a delicate frame, consulted me in the month of March 1814, on account of a disease, of which he gave me the following history :

In the Spring of 1812, he first complained of a severe pain in the upper part of the tibia of the right leg. The pain usually attacked him after dinner, and continued through the greater part of the night. In the morning he was always relieved, and able to pursue his usual diversions of shooting and hunting: the seat of the pain, however, remained extremely tender to the touch, although the part was neither swelled or discoloured. He suffered in this way for several weeks; the pain, however, becoming more violent, and the intervals of ease shorter, the leg used to swell at night, particularly about the ankle, and he was no longer able to walk without pain. In this state he applied for advice in Dublin; leeches and blisters were repeatedly applied with temporary advantage, and he was ordered some pills, which he believes were mercurial. The pain, however, continued, and his health became materially impaired;

he had a regular accession of fever every night, which terminated in a profuse perspiration at about five o'clock in the morning. He now observed that the shape of the limb was somewhat altered; there was no distinct tumor on the tibia, but about two inches below the knee joint, the upper and flat surface of the bone presented a rounded appearance, and the whole of the limb was somewhat œdematous, but the skin was in no part discoloured. In this state he returned to the country, and applied to the late Mr. Pack of Kilkenny, who told him that the disease was “an inflammation of the periosteum,” and advised that an incision should be made through the whole length of the tumor down to the bone. The operation was accordingly performed by Mr. Pack, with the most complete success; the pain was immediately relieved, and in a few weeks Mr. B. was restored to perfect health.—In 1813, Mr. B. called upon Mr. Astley Cooper, who told him that he had merely to advise a repetition of the operation so judiciously performed by Mr. Pack, in the event of a recurrence of the disease. Early in March 1814, the disease recurred, and Mr. B. called upon me about the latter end of the month; the inflammation had attacked the periosteum about two inches below the seat of the former disease. The pain commenced, as usual, in the afternoon, and continued until about three or four o'clock in the morning. He then fell into a profuse perspiration, which terminated the paroxysm, and he obtained some rest. His appetite, as in the former attack, completely failed him, and he emaciated rapidly. His

pulse was never below 80, and his tongue was white, but not coated.*

Mr. B. was directed to take three grains of the blue pill, and two of aloes every night, a pint of the compound decoction of sarsaparilla, with two or three drachms of the powder, in the course of the day. As the disease had commenced but a few days, its precise seat was not easily ascertained; taking, however, the part of the tibia which was most sensible to pressure as a centre, the incision was made to extend about an inch above and below this point. The periosteum was found to be about a quarter of an inch thick, its structure was almost cartilaginous, and its sensibility seemed to be much increased.

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* Mr. B. noticed a circumstance with respect to the influence of fermented liquors upon this affection, which appears to me to be of considerable importance, as illustrative of the effects of even very small quantities of alkohol, in diseases of an inflammatory nature. He observed at first, that the pain invariably recurred within an hour after dinner, at whatever time he might have taken that meal, and whether the food had been animal or vegetable. Suspecting that this might be connected with the nature of the liquid, rather than the solid matter which he took into his stomach, he left off fermented liquors; on the first day on which he made this change, the pain did not recur until he had been an hour in bed; this led him to institute a number of experiments upon the influence of different kinds of fermented liquors, in different quantities; the result was, that the pain could with certainty be excited within an hour, by drinking a glass of any kind of fermented liquor, however weak, and a single dram by measure, of port wine, diluted with four ounces of water, acted with equal energy as a glass of the undiluted wine.

After the pain attendant on the operation had subsided, Mr. B. experienced complete relief, and the wound, which was dressed superficially, healed in a few days. In the course of a week, however, the pain returned with its usual violence, but it had taken up a new seat, having commenced at the lower extremity of the last incision. In a few days a second incision was made, immediately below the former one, and the pain was again completely relieved. The wound on this occasion was dressed to the bottom, and kept open for nearly three weeks; but while it was yet discharging, the pain recurred in the seat of the original disease; it was, however, by no means severe, and Mr. B. was always able to procure a good night's rest by a grain of opium.

As his health was a good deal impaired, he was advised to go into the country and I have, within these few weeks, had the satisfaction to learn, that he has had no return of this distressing disease.

Chronic inflammation of the periosteum may exist for a considerable time, and yet the general health may be but little impaired; the disease, however, is not on this account the less formidable, as, sooner or later, the subjacent bone becomes diseased, and it has been shewn that when the pericranium is the seat of the affection, the most serious consequences are to be apprehended from the extension of the disease, through the bone to the dura mater. Chronic inflammation of the pericranium, unconnected with external injury, or with specific disease, is by no means an unfrequent affection; that it is inti-

mately connected with a disordered state of the general health, there can be but little room to doubt, although in the present state of our knowledge, I apprehend that we are at least premature in referring the disorder *exclusively* to the digestive organs.*

* I am far from denying that many local diseases are intimately connected with a disordered state of the chylopoietic viscera ; but I would merely affirm, that when we have no evidence of a derangement in the functions of these organs from the state of the appetite, or the apparent qualities of the alvine excretions, we are not warranted in concluding that such a derangement exists, because a local disease has yielded to mercurials, to bitters and aperients. In point of fact, we know nothing of the operation of medicines upon the animal economy, but by their effects ; that certain medicines exercise a peculiar influence upon particular organs, is apparent to our senses ; but in what manner this influence is exerted, is an inquiry of the utmost difficulty, and in which as yet we are but a small way advanced. It has been well observed by Mr. Abernethy, that a disordered state of the digestive organs, and a local disease in a remote part of the system, may be concomitant effects, depending upon some unknown irritation proceeding, perhaps, from the nervous system, and that the medicine which appears to act beneficially upon the local disease, through the medium of the digestive organs, may in fact but correct a more general derangement of the health, of which a disorder in the chylopoietic viscera is but one of the effects. To some this view of the subject may perhaps appear more curious than useful ; it may be urged that it is of little consequence to what part of the system we trace the disturbing cause, provided the morbid effects be removed by correcting a disordered state of the digestive organs : but, exclusive of the obvious objection to a hasty generalization, it appears to me of great importance, *in a practical point of view*, to take a wider range of investigation. The practitioner who looks exclusively to the digestive organs, as to the sources of all local disease, will, I fear, be disposed to trust too much to medicine, and too little to those other influences which act most beneficially upon the human constitution.

CASE IV.

In the year 1813, a general officer, about forty-seven years old, remarkably well made, and of a constitution naturally vigorous, returned to Ireland from the Peninsula for the recovery of his health. He suffered from a variety of dyspeptic symptoms, such as costiveness, loss of appetite, depression of spirits, and unconquerable languor. His principal complaint, however, was severe head-ach, which chiefly affected him at night. Upon examining the head, I found that the forehead and scalp were covered with flattish tumors, differing in size, from about a quarter of an inch to nearly an inch in diameter. They were slightly painful upon pressure, but seemed to be as hard as bone to the touch. He was directed to take five grains of blue pill every night, and a draught, consisting of infusion of gentian and rhubarb, with a dram of sulphate of magnesia, every morning and noon. His diet was regulated, and he was ordered to use the tepid salt water bath three times a week.

I saw this officer about two months afterwards; his general health was much improved; he had put up a good deal of flesh, and the tumors of the scalp and forehead had completely disappeared; but he still suffered occasionally from headach and sickness of the stomach.

In the following case (which is supplied by my friend Mr. Todd), the disease seemed to have extended to the bone and neighbouring parts, in consequence of the operation of dividing the inflamed periosteum having been too long delayed.

CASE V.

In the month of May 1816, I was called on to visit a lady from the country, who had, for nearly three years before, laboured under a painful affection of one of her legs. She was twenty-five years of age, of a fair complexion, and apparently delicate habit; but she ascribed her delicacy to repeated attacks of pain, long confinement, want of rest, and the use of medicines to a considerable extent.

This lady had a swelling on the forepart of the tibia of the right leg, about two inches above the ankle joint; it was nearly three inches in length, not very prominent, and the skin of its natural appearance. The tumor was soft but elastic, and conveyed a sensation as if a small quantity of fluid was collected under the periosteum. The integuments over the tumor, and for some distance around it, were slightly œdematous. The patient suffered much pain, which was increased by keeping the leg in a depending position, and as the warmth of the bed always increased her sufferings, she generally passed the night walking about her chamber. In the morning she slept for an hour or two, but was seldom free from pain, except for a short time in the early part of the afternoon.

Various remedies had been tried by country practitioners of judgment and experience, but without de-

cided benefit. After local treatment had failed, she was put through a full and protracted course of mercury, which had the effect solely of producing considerable debility. During the summer months her pain was by no means so acute as in the cold seasons, and she was induced, in the months of July and August 1814 and 1815, to have recourse to the cold bath ; but on the approach of winter her sufferings recurred, and continued to the period at which she placed herself under my care.

In the various plans of treatment which had been employed for the relief of my patient, local blood-letting was omitted ; it was therefore determined, in consultation, by Mr. Crampton and myself, that six leeches should be applied to the tumor every evening, and as much blood taken from the part as possible. During the day a compress, frequently wetted with camphorated spirit, was laid on the swelling ; the bowels were kept open with small doses of the sulphate of magnesia, and when pain was very severe, an opiate was administered ; but this in general did not produce a narcotic effect, and was therefore discontinued after the third or fourth exhibition.

These remedies were persisted in for more than a week ; the repeated bleedings weakened our patient considerably, and as the skin became tense, and the relief was very partial, we resolved to make an opening into the tumor. Accordingly an incision of the full length of the swelling was made completely to the bone ; the surfaces of the wound bled freely, but

no matter was discharged. The integuments were very much thickened, and the parts, close to the bone, had acquired a ligamentary firmness. There was so little retraction of the edges of the cut, that I was obliged to interpose a few dossils of lint to prevent adhesion.

In the course of a few days the wound suppurated; some relief was obtained, and my patient left town on the 26th of May. In a month after her return to the country, I received a letter from her, to state that the wound had healed, that she felt somewhat better, but that she suffered severe pain occasionally. I have not heard from her since."

Inflammation of the periosteum sometimes terminates in the deposition of bony matter upon the surface of the subjacent bone. This constitutes the true bony node, which, although rather a rare affection in man, is of very frequent occurrence in horses. In the veterinary art the disease is termed "*splint*" when it occurs about the middle of the long bones, and "*bone spavin*" when it occurs near to the articulation.

CASE VI.

Lord D——, when about fifteen years old, was attacked with fever, attended with excruciating pain about the middle of both of the tibiæ. After several weeks of suffering, the pain and fever subsided; but two bony tumors, about the size and shape of a pul-

let's egg, cut longitudinally, were formed on each of the tibiæ. It is now about sixteen years since Lord D——— suffered from this disease, but the tumors retain their original size. I am not acquainted with the particulars of the case, but I know that Doctor Baillie, who attended his Lordship under this attack, was of opinion that the disease was not connected with Lues.

To enter into the treatment of the different forms of periostitis in detail, would be to extend this paper, already, I fear, too long, to an unreasonable length. The practical conclusions to which the cases would seem to lead, may be summed up in a very few words.

1st. Inflammation of the periosteum, unconnected with specific disease, is an affection of very frequent occurrence. It often occupies the seat of the true venereal node, from which it can be alone distinguished by an accurate investigation of all the circumstances of the case.

2d. In the *acute form* of the disease recourse should be had to the means, both local and constitutional, which have the most decisive effects in discussing inflammation. Should these fail to procure relief, I believe there can be no doubt of the propriety of dividing the inflamed portion of periosteum through its whole length down to the bone.

3d. The same treatment is applicable to the

chronic form of periostitis, with this difference, that in its early stages the disease may frequently be acted upon beneficially, through the medium of the constitution.

4thly. In the constitutional treatment, as our attention is to be directed to the improvement of the general health, our views should not be confined to the correcting a disordered state of the digestive organs, whether real or suspected. The constitution should also have the benefit of those influences which act most beneficially upon it; and of these, I believe, country air and sea-bathing are justly esteemed the most powerful. Sarsaparilla, in whatever way it may act, is often eminently beneficial in cachectic habits, and particularly in those which have been injured by protracted courses of mercury. When chronic periostitis occurs in such habits, the compound decoction or the syrup of sarsaparilla may, in general, be given with considerable advantage.

FINIS.



